

**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)  
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 38467WOP00	<b>FOR FURTHER ACTION</b>	See Form PCT/IPEA/416
International application No. PCT/IB2004/000978	International filing date ( <i>day/month/year</i> ) 31 March 2004	Priority date ( <i>day/month/year</i> ) 31 March 2003
International Patent Classification (IPC) or national classification and IPC Int. Cl. <sup>7</sup> B32B 13/02, B28B 1/52, 23/02		
Applicant JAMES HARDIE INTERNATIONAL FINANCE B.V et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
  - a. ☒ (*sent to the applicant and to the International Bureau*) a total of 1 sheets, as follows:
    - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - b. ☐ (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or table related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

Date of submission of the demand 31 January 2005	Date of completion of the report 3 March 2005
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer  JOHN DEUIS Telephone No. (02) 6283 2146

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/IB2004/000978

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1 (b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-23 as originally filed/furnished
- pages\* received by this Authority on with the letter of
- pages\* received by this Authority on with the letter of
- ☒ the claims:
- pages 24-25, 27-31 as originally filed/furnished
- pages\* as amended (together with any statement) under Article 19
- pages\* 26 received by this Authority on 31 January 2005 with the letter of 31 January 2005
- pages\* received by this Authority on with the letter of
- ☒ the drawings:
- pages 1/1 as originally filed/furnished
- pages\* received by this Authority on with the letter of
- pages\* received by this Authority on with the letter of
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to the sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to the sequence listing (*specify*):

\* If item 4 applies, some or all of those sheets may be marked "superseded."

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/IB2004/000978

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims 1-75	YES
	Claims	NO
Inventive step (IS)	Claims 1-75	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-75	YES
	Claims	NO

## 2. Citations and explanations (Rule 70.7)

None of the individual citations disclose all the essential features as claimed. Claims 1-75 are novel and involve an inventive step.

The invention is directed to an engineered fibre reinforced cement product comprising a carbonation reducing sealer applied to two major surfaces, whereby differential carbonation is reduced.

The closest art found was:

- D1: Wattyl, Granosite GranoSkin Decorative Membrane Datasheet 5.02, 6 January 1999, [retrieved on 2004-06-25]. Retrieved from the Internet: <URL: <http://web.archive.org/web/20030117223024/www.granosite.com.au/5wpm/PM2GSKDM.htm>, achieve date 2003-01-17.
- D2: Ardex, Sheltercoat Façade, Shelter waterproofing membranes, 10 March 2002, [retrieved on 2004-06-25]. Retrieved from the Internet: <URL: <http://norcross.com.au/pdfs/datasheets/2002-11-13/sheltercoatfacade.pdf>, achieve date 2003-03-21.
- D3: Ameron Coatings, Amercoat 288 Flexible water-borne acrylic membrane, August 1999, [retrieved on 2004-06-25]. Retrieved from the Internet: <URL: <http://web.archive.org/web/20030720224335/home.xtra.co.nz/hosts/AmeronCoatings/aus/PDF/A0288.PDF>, achieve date 2003-02-17.
- D4: MBT Middle East: Datasheets, Masterseal 300H, June 2002, [retrieved on 2004-06-25]. Retrieved from the Internet: <URL: <http://web.archive.org/web/20020102180555/http://www.mbt-middle-east.com/datasheet/html/repair/mseal300.html>, achieve date 2002-12-01.
- D5: US 6030447 A (NAJI ET AL.) 29 February 2000

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19. A product according to any one of the preceding claims, wherein the carbonation reducing sealer is substantially alkali resistant.
20. A product according to any one of the preceding claims, wherein the carbonation reducing sealer is sufficiently cross-linked to impede migration of carbon dioxide through the sealer to a predetermined extent.
21. A product according to any one of the preceding claims, wherein the carbonation reducing sealer is substantially flexible in a cured state.
22. [AMENDED] A product according to any one of the preceding claims, wherein one or more of the sealer, the method of manufacture, and the physical structure of the cured product, are selected to reduce propensity for carbonation in the product.
23. [AMENDED] A product according to claim 22, wherein the sealer has a cement to silica ratio of between 0.2 and around 1.5 on a dry weight basis.
24. [AMENDED] A product according to claim 22, wherein the sealer has a cement to silica ratio of between 0.3 and around 0.9 on a dry weight basis.
25. [AMENDED] A product according to claim 22, wherein the sealer has a cement to silica ratio of between 0.3 and around 0.5 on a dry weight basis.
26. A product according to claim 22, wherein the cement to silica ratio is between 0.36 and around 0.43 on a dry weight basis.
27. A product according to claim 22, wherein the cement to silica ratio is around 0.39 on a dry weight basis.
28. A product according to any one of claims 22 to 27, formed with a porosity of between 30% and around 40%.
29. A product according to any one of claims 22 to 28, having a porosity of between 30% and around 60%.